1. (Currently Amended) A method for depositing a conductive material in cavities of a substrate having a barrier layer and a seed layer formed thereon, the method comprising the steps of:

removing certain portions of the seed layer from the top surface of the substrate using a pad material while preventing removal of other portions of the seed layer from the cavities of the substrate **by applying an electric potential between the substrate and an electrode**;

exposing portions of the barrier layer on the top surface of the substrate after removing certain portions of the seed layer; and

depositing the conductive material on the seed layer in the cavities of the substrate.

2. (Previously Presented) A method according to claim 1, wherein the step of removing certain portions of the seed layer from the top surfaces of the substrate comprises the step of polishing the certain portions of the seed layer using the pad material having abrasive particles.

3. (Previously Presented) A method according to claim 2, wherein the polishing step comprises rotating one of the pad material or the substrate in a circular direction at a rate of 50 to 2000 revolutions per minute for 2 to 60 seconds.

4. (Previously Presented) A method according to claim 2, wherein the polishing step comprises rotating one of the pad material or the substrate in a circular direction at a rate of 100 to 1200 revolutions per minute for 5 to 25 seconds.

5. (Previously Presented) A method according to claim 2, wherein the polishing step comprises the step of using the pad material to make contact with the certain portions of the seed layer on the top surface of the substrate at a pressure ranging from 0.05 to 5 pounds per inch.

6. (Previously Presented) A method according to claim 1, wherein the substrate comprises a dielectric layer.

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7. (Previously Presented) A method according to claim 6, wherein the dielectric layer comprises a silicon dioxide layer.

8. (Previously Presented) A method according to claim 1, wherein the conductive material comprises one of a copper, aluminum, iron, nickel, chromium, indium, lead, tin, lead-tin alloys, nonleaded solderable alloys, silver, zinc, cadmium, titanium tungsten molybdenum, ruthenium, and combinations thereof.

Claims 9-32 (Canceled).

33. (Previously Presented) A method according to claim 31 further comprising the step of applying an electric current density between the substrate and the electrode of 5 to 250 mA/cm^2 during the depositing step.

34. (Previously Presented)A method according to claim 31 further comprising the step of applying an electric current density between the substrate and the electrode of 7 to 150 mA/cm^2 during the depositing step.

35. (Previously Presented) A method according to claim 31 further comprising the step of applying an electric current density between the substrate and the electrode of 0.05 to 15 mA/cm^2 during the removal step.

36. (Previously Presented) A method according to claim 31 further comprising the step of applying an electric current density between the substrate and the electrode of 0.1 to 10 mA/cm^2 during the removal step.

37. (Previously Presented) A method according to claim 1 further comprising the step of positioning the pad material between 1 micron to 2 millimeters from the substrate during the depositing step.

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38. (Previously Presented) A method according to claim 1 further comprising the step of positioning the pad material on the substrate during the depositing step.

39. (Previously Presented) A method according to claim 38, wherein the pad material is positioned on the substrate at a pressure between 0.05 to 5 pounds per square inch.

40. (Previously Presented) A method according to claim 1 further comprising the step of applying a first electric potential between the seed layer and an electrode having the pad material attached thereto, the first electric potential being applied during the step of preventing removal of other portions of the seed layer from the cavities of the substrate.

41. (Previously Presented) A method according to claim 40, wherein applying the first electric potential makes the seed layer more negative than the electrode.

42. (Previously Presented)A method according to claim 40 further comprising the step of applying a second electric potential between the seed layer and the electrode, the second electric potential being applied during the step of depositing.

43. (Previously Presented)A method according to claim 42, wherein the value of the second electric potential is greater than the value of the first electric potential.

44. (Previously Presented)A method according to claim 1, wherein the polishing step comprises moving the pad material and the substrate with respect to each other.

45. (Previously Presented)A method according to claim 1 further comprising rotating and moving the substrate laterally.

46. (Previously Presented)A method according to claim 1, wherein the polishing step comprises moving the pad material and the substrate with respect to each other.

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